

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 13 MAR 2006

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Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB2004/003268	International filing date (day/month/year) 28.07.2004	Priority date (day/month/year) 01.08.2003
International Patent Classification (IPC) or both national classification and IPC G06F9/445		
Applicant SYMBIAN SOFTWARE LIMITED et al.		

- This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
  - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

- This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  26.05.2005	Date of completion of this report  10.03.2006
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**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB2004/003268

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-19 as originally filed

**Claims, Numbers**

1-23 filed with telefax on 26.05.2005

**Drawings, Sheets**

1/2, 2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - ☐ the language of publication of the international application (under Rule 48.3(b)).
  - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
  - ☐ filed together with the international application in computer readable form.
  - ☐ furnished subsequently to this Authority in written form.
  - ☐ furnished subsequently to this Authority in computer readable form.
  - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
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International application No. **PCT/GB2004/003268**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	6, 8-23
	No: Claims	1-5, 7
Inventive step (IS)	Yes: Claims	
	No: Claims	1-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Reference is made to the following documents:**

D1: US-B-6 357 0001 (JAIN NAVEEN K) 12 March 2002

D2: WO 02/095581 A (IBM DEUTSCHLAND ; IBM (US)) 28 November 2002

**2. Clarity objections (Article 6 PCT)**

The term "**composite** data file system" used in claim 1 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear, Article 6 PCT.

The argumentation of the applicant that claim 1 as filed "specifically states that a **composite** file system is provided which comprises certain components in executable memory and other components in non executable memory, and... executing the components in the non executable memory by selectively copying into the executable memory" renders this composite file system as an file system which allows the use of virtual memory, feature found in every modern operating system and, therefore, known by the skilled person in the art. Moreover, even this "**composite** data file system" does not allow the execution of components out of non-executable memory, but copies them selectively into the executable memory, as most virtual memory implementations do.

**3. Novelty of independent claim 1 (Article 33(1) and (2) PCT)**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document **D1** discloses (the references in parentheses applying to this document) the subject-matter of independent method claim 1 as follows:

*"A method of accessing data from non-executable memory of a computing device (column 1, line 53 -65: loads the operating system stored on the disk into the memory), the method comprising providing a composite data file system comprising selected data copied from the non-executable memory to executable memory, in combination with further data remaining in the non-executable memory (column 2, line 14-35: the conventional load routine loads the operating system*

load modules indicated by the load record [...]), and accessing the data in the composite data file system by accessing the selected data from the executable memory and accessing the further data by selectively copying the further data to the executable memory. (column 3, lines 37-63: only variable load modules specified by the user are included in the operating system)"

**4. Novelty and inventiveness of independent claims 22 and 23 (Article 33(1) (2) and (3) PCT**

Claims 22 and 23 are drawn as a computing device programmed to operate according to the method, respectively as computer software arranged to cause the computing device to operate according to the method as claimed in any one of the claims 1 to 21, therefore the objections under point 2 and 4 apply, mutatis mutandis, to them.

**5. Novelty and inventiveness of dependent claims 2-21**

Dependent claims 2-21 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, for the following reasons:

- 5.1 Claims 2-6 refer to compression/decompression of data when copied to the executable memory. This was already disclosed in D1 (claims 3: "means for executing the loaded data decompression routine before the permanent load module is loaded so as to decompress the compressed operating system instructions", 19 and 23). The selective copying and component-wise decompression are straightforward features known to the skilled person in the art.
- 5.2 Claims 7-10 refer to the load of the core operating system, code for the boot-up of the computing device and access to the read only file system of the device. These are standard features for the respective components or methods of every computing device and D1 also discloses the load of the operating system(OS), the boot-up of the device and the use of a read only memory.
- 5.3 Claims 11-12 and 13 refer to the content of the data. It is obvious to the skilled person in the art that the data can be a program, a dynamic link library, a static library, a ROM image, a device driver or any other known data entity.
- 5.4 Claim 14 refers to determining the location of data blocks by reading an address from a section of the non-executable memory. D1 also discloses a variable data partition on the disk which "also indicates a next partition to be read from by the load program" (column 7, lines 64 . column 9, lines 51 and figures 5A and 5B).

- 5.5 Claims **15** and **16** refer to "*additional data*" to be copied, but there is no feature of this additional data disclosed. Even in the light of the description the term "*additional data*" is not further characterized so it was considered as any other data, therefore no additional subject-matter can be seen in claims **15** and **16**.
- 5.6 The use of a language pack image for providing a desired language GUI, as claimed in claim **17** is a well established practice at install, configuration and/or boot-time of a computing device. It is already disclosed, for example, in the abstract of **D2**.
- 5.7 Claim **18** refers to the use of a common driver for copying data of different types. The use of the same command, program or driver for manipulating different data is known and used from the beginning of operating systems.
- 5.8 Claim **19** refers to data stored in a section of the non-executable memory locked to a user. Every modern OS (like Unix, Windows XP, Palm OS or Symbian OS) provides this possibility.
- 5.9 The use of a NAND flash memory for a non-executable memory respectively of random access memory (RAM) for executable memory, as claimed in claims **20** respectively **21** are within the obvious choices for the skilled person in the art as shown for example in **D2**, page 6 lines 12-18 respectively **D2**, page 8, lines 1-5 and fig 4.

## CLAIMS

1. A method of accessing data from non-executable memory of a computing device, the method comprising providing a composite data file system comprising selected data copied from the non-executable memory to executable memory, in combination with further data remaining in the non-executable memory, and accessing the data in the composite data file system by accessing the selected data from the executable memory and accessing the further data by selectively copying the further data to the executable memory
2. A method according to claim 1 wherein the selected data comprises compressed data which is decompressed when copied to the executable memory.
3. A method according to claim 2 wherein the selected data is decompressed as a whole when copied to the executable memory.
4. A method according to claim 1 or 2 wherein one part of the selected data is copied to the executable memory independently of another part of the selected data.
5. A method according to any one of the preceding claims wherein the further data comprises compressed data which is decompressed when selectively copied to the executable memory.
6. A method according to claim 5 wherein the further data comprises a plurality of components and is decompressed component by component when selectively copied to the executable memory.
7. A method according to any one of the preceding claims wherein the selected data comprises core operating system data for the computing device.

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8. A method according to claim 7 wherein the core operating system data comprises program code for enabling boot-up of the computing device and access to read only file system (ROFS) data for the computing device.
9. A method according to claim 8 wherein the selected data further comprises selected components of the read only file system data.
10. A method according to any one of the preceding claims wherein the further data comprises read only file system data.
11. A method according to claim 10 wherein the further data comprises an executable program.
12. A method according to claim 10 or 11 wherein the further data comprises a dynamic link library.
13. A method according to any one of the preceding claims wherein the selected data is in the form of one or more ROM images.
14. A method according to any one of the preceding claims wherein the location of at least one of the selected data and the further data within the non-executable memory is determined by reading an address from a section of the non-executable memory.
15. A method according to any one of the preceding claims wherein additional data is selectively copied to the executable memory in addition to the data in the composite data file system.
16. A method according to claim 15 wherein the additional data is selectively copied to the composite data file system.
17. A method according to claim 15 or 16 wherein the additional data comprises a language pack image.



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18. A method according to any one of claims 15 to 17 wherein a common driver is used to selectively copy the further data and the additional data to the executable memory.
19. A method according to any one of claims 15 to 18 wherein the selected data, the further data and the additional data are stored in a section of the non-executable memory locked to a user.
20. A method according to any one of the preceding claims wherein the non-executable memory is selected to comprise NAND flash memory.
21. A method according to any one of the preceding claims wherein the executable memory is selected to comprise random access memory (RAM).
22. A computing device programmed to operate according to the method of any one of claims 1 to 21.
23. Computer software arranged to cause a computing device to operate according to the method of any one of claims 1 to 21.